Cumulative Index 1990

Volume 9

Ianuaru FRACTURES, pages 1-228 April NEUROVASCULAR INJURIES, pages 229-522 Iulu MENISCAL INJURIES, pages 523-730 December KNEE BRACING, pages 731-881

Note: Page numbers of article and issue titles are in boldface type.

Acromioclavicular joint injury(ies), 31 separation, 36 treatment of, 34 Acromion, epiphysis of, unfused, 32 fractures of, 31-32

Adductor canal outlet syndrome, 464-465 Adolescents, meniscal repair in, 675-677 Adults, and children, meniscal injuries in, 661-680

Adventitial cystic disease of popliteal artery, 461-464, 465

Aerobic conditioning, in injuries of lumbar spine, 434-436

Allograft, meniscal, in posterior cruciate and posterolateral insufficiencies, 692-693 Anatomic axis machine, for knee rehabilitation, 800-801

Aneurysm(s), traumatic, of lower extremity, 456-457, 458

Ankle, fracture(s) of, 164-165 displaced supination external rotation,

> in cross country skiers, 221 "occult malunion", 164-165 posterior compartment, 169-171

neuropathies of, in athletes, 489-509 diagnosis of, 490

problematic fractures and dislocations of,

Anterior cruciate ligament, acute injuries of, 682-686, 687, 688 deficiency, 628-629, 631

treatment of, 490 sprain, persistent pain after, 167, 169-170 chronic, 686-690 functional braces in. 806-809 meniscectomy in, degeneration follow-

reconstructions, continuous passive mo-

tion following, 801 isokinetics following, 802

knee extension exercises following, 802 rupture of, medial collateral ligament in,

tear(s) of, meniscal tears in, 567-568 physical examination in, 568

Anterior cruciate ligament braces, advantages of, 795

energy requirements for, 773-775 force plate analysis and, 791-794 functional analysis of, 771-797

history of, 771-772

kinematic changes with, 783-791 muscle firing patterns and proprioception with, 777-783

performance testing of, 775-777 subjective functional analysis of, 772-773

Anterior interosseous nerve syndrome, 351-355

Antibiotics, in infected nonunion of tibia,

prophylactic, in arthroscopic meniscal repair, 615

Artery(ies). See also specific arteries. of lower extremity, 449-451

of upper extremity, problems of, 379-382 Arthritic spurs, 720

Arthritis, arthroscopic meniscectomy in, 636

in meniscal cyst, 716, 717 of knee, 561-566 advantages of, 563-564 and arthroscopy, diagnostic accuracies relative strengths and weaknesses of, 564 double-contrast technique of, 561-562 history of, 561 menisci of, problem areas hindering, 564 Arthroscope, placement of, for knee arthroscopy, 623, 624 Arthroscopy, and magnetic resonance imaging, of knee, compared, 554-558 and partial meniscectomy, 635-637 arthrography and, diagnostic accuracies of, relative strengths and weaknesses of, 564 for meniscal repair. 589-607, See also Meniscectomy, arthroscopic. advantages of, 598, 610 assessment of meniscal edges for, 598 classification of healing in, 604 complications in, 609-617 experience of arthroscopic surgeons and, 613 rate of, 612-613 statistics on, 610-613 types of, 611, 612

Arthrography, in knee injury, 671

types of, 611, 612
evaluation of tear for, 598
fibrin clot for, 598–599
fibroarthrosis and, 614
future directions in, 605
healing rate following, 609–610
infections and, 615
inside-out technique in, 599–600
instrument failure in, 614–615
knowledge of neurovascular structures
for, 613
outside-in technique in, 600–602, 603,
614
peroneal nerve and, 613–614
prophylactic antibiotics in, 615
rehabilitation following, 602–604

peroneal nerve and, 613–614 prophylactic antibiotics in, 615 rehabilitation following, 602–604 results of, 604–605 successful, factors contributing to, 604 technical considerations in, 614 thromboembolic disease in, 615 in tight knee, 626–627 of knee, degenerative changes following, 619 in "difficult tight" knee, 620

"scuffing" in, 619 technique of, 621–626 techniques to visualize meniscus for, 627–628 techniques of, to improve access to lesions of posterior meniscus, 619-632 Atlas, fractures of, 19 Axillary artery occlusion, 379-380 Axillary nerve, anatomy of, 334 injury of, clinical presentation of, 334-335 treatment and prognosis in, 335-336 Axillary subclavian vein, thrombosis of, 382-386 Axonotmesis, 318, 344-345

Back pain, low. See Low back pain.
Ballet, lumbar spine injuries in, 438
Baseball, catching in, vascular injury associated with, 412–413
lumbar spine injuries in, 444–445, 446, 447
pitching hand in, vascular problems in, 413–415
vasospastic disorders of index fingers in, 415

Bennett's fracture, 100–103 Blood clot preparation, for meniscal repair, 573–574 Blood supply, of meniscus, 590–591

Blood vessels, response of, to meniscal injuries, 591–593, 594

Bone grafting, in fractures, 5–6

Bone gratting, in fractures, 5–6 in infected nonunion of tibia, 153, 155– 157 in nonunion of tibia, 142–146

Bone remodeling, bone stress as continuum from, 189 Bone scanning, technetium, in metatarsal

stress fractures, 176
Bone scans, in stress fracture, 189, 195
Bone(s), neoplasms of, knee pain in, 643–644, 646

Boots, rigid ski, 218–219 Bowler's thumb, pathophysiology of, 401– 402

physical examination in, 402 treatment of, 402–403 Boxer's fracture, 97–98

Brace(s), following arthroscopic meniscal repair, 604

knee. See Knee brace(s).
Brachial neuropathy, acute.

Brachial neuropathy, acute, 323–325 electromyelography examination in, 242–243 Brachial plexus, anatomy of, 311–315

burner injuries of, 319–323 compression injuries of, 325–326 injuries of, 311–329 adjunctive testing in, 316–318 classification of, 318–319 patterns of, 319

physical examination in, 315-316

major branches of, 315
Buerger's disease, 465–466
Burner syndrome, 319–323
Burning dysesthesia, electromyelography examination in, 241–242
Bursae, inflammed, about knee, 720

Calcaneus, anterior process of, fractures of, 171–173
stress fractures of, 173, 203–204
Capitellum, fractures of, 51
osteochondritis dessecans of, 51–52
Carpal tunnel syndrome, 390–392
clinical presentation of, 392–394
differential diagnosis of, 394
rehabilitation following, 395
treatment of, 394–395
Carpus, fractures of, 104–108

Cartilage, articular, disease of, failure of meniscectomy in, 651-652 presentation in older patient, 651-652 effect of blunt trauma on, 642 Cast(s), playing, 86

Casting, in first metatarsophalangeal joint complex injuries, 179 in tarsal navicular stress fractures, 173–

Cervical spine, anatomy of, 263–264 congenital stenosis of, 22 dislocations of, management of, 18–22 facet dislocation of, 26–27

facet dislocation of, 26–27 fracture(s) of, diagnostic modalities in, 14– 18 in athletes, 13–29

initial management of, 13-14 management of, 18-22

return to competition following, 22–28 injuries of, and fracture-dislocation injury patterns, 268–270

and neurologic implications, 263-278 case study of, 275-277 clinical and radiologic evaluation in,

clinical and radiologic evaluation in, 264-267, 268 return to activity following, 273-275

treatment of, 271-273 lower, lesions of, 20 mid-, lesions of, 20

stenosis of, with cord neurapraxia and transient quadriplegia, 279-296 discussion of, 289-295

evaluation in, 281–289 subacute instability of, 21–22 subluxation of, in cervical injury, 27–28 management of, 18–22

upper, lesions of, 18–20 Child(ren), fractures of condyle in, 45, 46 meniscal injuries in, 661–680 meniscal repair in, 675–677 stress fractures in, 190-192 Chondrocalcinosis, definition of, 652 postmeniscectomy, 652, 654 Clavicle, distal, fractures of, 32 Clay shoveler's fracture, 21

Collagen fibers, orientation in meniscus, 527 Compartment syndromes, clinical evaluation in, 475–479, 480

etiology and pathophysiology of, 471–472 in athletics, 471–487 surgical technique in, 479–484

Compression fractures, of vertebral body, 21 Compression injuries, of brachial plexus, 325-326

Compression plating, in fracture stabilization, 3 in nonunion of tibia, 151, 152–153

in nonunion of tibia, 151, 152–153 in open fractures, 5 Compressive neuropathies, electrodis

Compressive neuropathies, electrodiagnostic studies in, 346–347 locations of, 346

of median and radial nerves at elbow, 343–363

classifications of, 344-346 diagnosis of, 343

Computed tomography, in cervical spine fractures, 16–18

in internal derangements of knee, 579 in meniscal cyst, 716, 717 Condyle(s), fractures of, 44–47, 75–79

in children, 45, 46
Coracoid process, stress fractures of 19

Coracoid process, stress fractures of, 192 Crystal deposition disease, meniscectomy in, 652

Cyclist's palsy, 399–400 Cyst(s), ganglion, 720 meniscal, 707–725

clinical presentation of, 714–715 clinical series of, review of, 720–722 diagnosis of, 716–718, 719 differential diagnosis of, 719–721 etiology of, 710–711 historical review of, 708–710 in disease processes, 707 in meniscal tears, 707, 713–714 incidence and distribution of, 710 pathology of, 711–714 physical examination in, 715–716 symptoms of, 714–715

popliteal, 720 Cystic disease, adventitial, of popliteal artery, 461–464, 465

Deep venous thrombosis, 466–467 Digital nerve neuropathy, 404 Digital nerve syndromes, 401

treatment of, 722-723

Digits, ischemia of, repetitive hand trauma and, 411–415 Dislocation(s), LisFranc, 175–176

Dreaded black line, 200, 201

Elbow, anatomy of, 40–42 and forearm, fractures of, 59–83 dislocations of, 54–55 fractures of, common, 71 complicated, in athletes, 39–58 Little Leaguer's, 49, 50 median and radial nerves at, compressive neuropathies of, 343–363 problems of ulnar nerve at, 365–377 tennis, 357–361

Electrical stimulation, in nonunion of tibia, 151

Electrodiagnostic testing, in anterior interosseous syndrome, 353 in brachial plexus injuries, 317 in compressive neuropathies, 346–347 in ulnar nerve problems, 370 of neurologic injuries. 229–245

of neurologic injuries, 229-245 Electromyelography examination, experience with, 237-240 in acute brachial neuropathy, 242-243

in burners and stingers, 241-242 in rotator cuff tears, 243-244 in sports injuries, 229-230 limitations of, 235-237

needle electrode examination in, 233–234 nerve conduction studies in, 230–233 of shoulder girdle, 240–241

pathophysiologic/clinical correlations in, 234-235

Entrapment neuropathy syndrome, 404 Epicondyles, fractures of, 48-51 Epidemiologic studies, of medial collateral ligament injuries, 845-846

Exercise(s), knee extension, following anterior cruciate ligament reconstruction, 802

stretching and strengthening, in injuries of lumbar spine, 429-434

Extremity(ies), malalignment of, results of meniscectomy in, 645-648

Fatigue fractures, 186–188
Femoral neck, stress fractures of, 195–196
Femoral physis, distal, fractures of, 135–136
Femoral shaft, fractures of, 222, 223
mid-diaphyseal, 9–10
stress fractures of, 196–197

tress fractures of, 196–197 case histories of, 113–114 clinical data on, 112 distribution of, 113 in athletes, 111-119

Femur, supracondylar fractures of, 135 Fibrin clot, for arthroscopic meniscal repair, 598-599

Fibroarthrosis, and arthroscopic meniscal repair, 614

Fibula, stress fractures of, 201-202

Finger(s), index, vasospastic disorders of, associated with baseball, 415

Foot(Feet), fractures of, 179–180 neuropathies of, in athletes, 489–509 diagnosis of, 490

treatment of, 490

problematic fractures and dislocations of, 163–181

Football, lumbar spine injuries in, 440 prophylactic knee braces in, studies of, 853-870

Forearm, anatomy of, 59–60, 474, 475 and elbow, fractures of, 59–83 both bone fractures of, 62–64 compartment syndrome of, etiologies of, 478

rehabilitation following, 484–485 surgical technique in, 482–484 fractures of, hardware removal in, 69–71

stress fractures of, 194-195 Fracture of necessity, 60-61

Fractures, 1-228. See also specific sites and types of.

care, complications of, 6 implant removal following, 7–8 in lower extremity, 454–455 in skiing athlete, 215–223

in sports, principles of management of, 1-11 LisFranc, 175-176

management of, cases illustrating, 8–10 of foot and ankle, in athletes, 163–181 of lumbar spine, 423–424 of shoulder, difficult sports-related, 31–37

open, management of, 4-5 problematic, and dislocations, in foot and ankle, 163-181

return to activity fellowing, 7 stabilization, choices in, 2-3 stress. See Stress fracture(s).

Fracture-dislocations, patterns of, injuries of cervical spine and, 268–270

Galeazzi fracture, 60-61 Glasgow coma score, 253 Glenoid, fractures of, 34-36 Golf, lumbar spine injuries in, 441-444 Golgi receptors, 513 Great toe, stress fracture of, 208 Guyon's canal, anatomy of, 397, 409 Guyon's canal syndrome, 396-399 Gymnastics, lumbar spine injuries in, 438

Hamate, hook of, fractures of, 106-108
Hand, arterial anatomy of, 404-406, 407
neurovascular injuries in, 389-417
physical examination and laboratory testing of, 406-408
pitching, vascular problems in, in baseball, 413-415
repetitive trauma to, and digital ischemia, 411-415
sports-related fractures of, 85-109
vascular syndromes of, 404-408

Head injuries, closed, 247-261
acute, 247-250
chronic, 250
delayed complications of, 257
emergency management in, 255-257
evaluation in, 251-254
prevention of, 250-251
repetitive mild, effects of, 258-259

Handball, repetitive trauma lesions in, 411-

return to competition following, 258 Humerus, distal, fracture(s) of, 42-43, 74-75

intercondylar fractures of, 47–48 stress fractures of, 192–193 Hypothenar hammer syndrome, 408–411 differential diagnosis of, 411 pathophysiology of, 409–410 treatment of, 411

Immobilization, in orthopedic disorder, 799 in shoulder injuries, 32

Implant(s), removal of, following fracture treatment, 7–8

Incision(s), for meniscal repair, 569-571, 582, 583

Infection(s), arthroscopic meniscal repair and, 615

in nonunion of tibia, 153-159 prevention of, in open fractures, 4

Instruments, failure of, in arthroscopic meniscal repair, 614–615 Intercondylar eminence, fractures of, 131–

Intercondylar eminence, fractures of, 131-133

Interdigital neuroma, 490–493 Intermedullary nailing, in malunion and nonunion of tibia, 144, 145, 146, 147– 150

Internal fixation, in open fractures, 5 Interosseous nerve, disorders associated with, 351-357, 358

Interphalangeal joint, proximal, fracture subluxation of, 94–97

Joint distractor, for meniscal repair, 571
Joint(s), functions of, 512–514
injury of, alterations in proprioception in,
514–515
joint innervation in, 511–517
innervation of, in joint injury, 511–517
mechanoreceptors and, 512–514
neuroanatomy of, 511–512
Jones fractures. 177, 178

K-wires, in fracture stabilization, 2, 89, 90, 93–94, 96–97, 99, 101–103, 104 in LisFranc fractures and dislocations, 176 Kiloh-Nevin syndrome, 351–355 Knee, abnormal rotations of, 744 anterior cruciate ligament of, acute injuries of, 682–686, 687, 688 chronic deficiency of, 686–690 complaints, physical examination in, 643, 644 cruciate-deficient, 628–629, 631

cruciate-deficient, 628-629, 631 acute, incidence of meniscal injuries in, 681

chronic, incidence of meniscal injuries in, 681–682 meniscus injuries in, 681–694 developmental anatomy of, 661–662

developmental anatomy of, 661–662
"difficult tight", arthroscopy in, 620
dislocation of, assessment and treatment
of, 453–454
classification of, 452–453

incidence of, 452 fractures about, in sports, 121-139 impact response of, with prophylactic

bracing, 832-835, 838-839 injuries of, anatomy and pathomechanics of, 743-745

internal derangement of, diagnostic tests in, 579

pain in, in bone neoplasms, 643–644, 646 in lesions of lumbar spine, 643, 645 in patellofemoral malalignment, 813 pain referred to. Sailure of meniscectomy

in, 643, 644
posterior cruciate ligament of, injuries of,

posterior cruciate ligament of, injuries of 691–692

posterolateral instabilities of, 691-692 reflex sympathetic dystrophy of, meniscectomy in, 648-651

signs of, 650 stability of, 744

surrogate model of, for evaluation of braces, 753-756

tight, arthroscopy in, 626-627 definition of, 626 problems mimicking, 626

unstable, meniscal repair in, 594

Knee brace(s), ACL. See Anterior cruciate ligament braces.

and knee impact response, with prophylactic bracing, 832-835, 838-839

derotation, 736-737

during rehabilitation, 799-810 classes of, 800

types of, 803-808

for comparative surrogate performance testing, 756-757, 848

functional, 736-738

choosing of, 743-750 effect of, on collateral lis

effect of, on collateral ligaments, 845 for anterior cruciate ligament-deficient knee, 806–809

hinge design for, 748

leverage applied by, 747 material properties for, 747-748

mechanical factors affecting selection of, 746-748

mode of function of, 746

patient factors affecting choice of, 748-749

history and classification of, 731-741 patellar, 815-819

postoperative, biomechanical and physiologic factors affecting, 766–768 prophylactic, 732–735

effect of, on collateral ligaments, 844 hazards of, 865

in vitro assessment of function of, 823-

evaluation of brace/knee impact response in, 832–835, 838–839 preliminary studies of, 825–830 surrogate development and validation

in, 830–832 laboratory evaluation of performance of, 751–762

methods of surrogate development for, 753-756

results of, 756-760

mandated, in football, cost of, 866 single-sided hinged, 853

studies of, in football, 853-869

bias in, 854 brace use in, 856–859, 865 compliance in, 859 conclusions of, 867–868 confounding in, 854–855 consequences of wearing brace

and, 864 experimental and control groups in, 862-863

exposure to injury and, 855, 857 exposures of braced and unbraced groups in, 863–864

generalizing results of, 855, 856 history of, 853-854

in future, 867

injuries and, 859–861 injury reporting and, 860 medial collateral ligament injuries and, 864–865, 866

results of, 861-862 rehabilitative, 735-736

breakdown, 805-806 comfort of, 804

comfort of, 804

effect of, on collateral ligaments, 844-845 for control of range of motion, 803

for control of range of motion, 803 for protection from falls, 804 problems associated with, 804–805 sizing of, 803–804

Knee bracing, 731-881

cadaver biomechanical evaluation of, 846-847

effect of, on collateral ligaments of knee, 843-851

for patellar instability, 813-821 future of, 768-769

patellofemoral, 809 position statement concerning, 848-849

postoperative, **763–770** review of current literature on, **765–766** role of, **763–765**

"Lag" fixation, in fracture stabilization, 2 Leg, anatomy of, 473-474

compartment syndrome of, etiologies of, 476–477

rehabilitation following, 484 surgical technique in, 479–482, 483 symptoms of, 475–476

Leg holding device, for knee arthroscopy, 622, 623

Ligament(s), anterior cruciate. See Anterior cruciate ligament.

injuries of, with meniscal injuries, 665 medial collateral. See Medial collateral ligament.

posterior cruciate, injuries of, 691-692 LisFranc fractures and dislocations, 175-176 Little Leaguer's elbow, 49, 50

Low back pain, factors predisposing to, 419-420

in athletic activity, 419

Lower extremity, blunt trauma to, 455-456 fractures in, 454-455

nontraumatic vascular problems of, 457– 467

traumatic aneurysms of, 456-457, 458 traumatic injury to, 451-452

vascular anatomy of, 449–451 vascular problems in, in athletes, 449–469

Lumbar spine, anatomy of, 420-421 biomechanics of, 423-424

biomechanics of, 423–424 fractures of, 423–424 injury(ies) of, aerobic conditioning in, 434-436 categories of, 426-427 history taking in, 425-426 in athlete, 419-448 in different sports, 437-446 mechanisms of, 423 nonoperative care in, 427-429, 435 operative care in, 436-437 trunk stretching and strengthening program in, 429-434 k sions of, knee pain in, 643, 645 pain in, diagnosis of, 421

etiology of, 421 physical examination of, 424-427

Magnetic resonance imaging, in brachial plexus injuries, 316-317 in cervical spine fractures, 18 in internal derangements of knee, 579 in meniscal cvst, 716-719 of meniscus(i), 551-559, 670-671 Mallet fracture with volar subluxation, 88-

Mechanical axis machine, for knee rehabilitation, 800-801

Medial collateral ligament, bracing of, in vitro testing of, 846-848 effect of bracing on, 843-851 injuries of, bracing in, 824, 837 epidemiologic studies of, 845-846 mechanism of, 844 studies of prophylactic knee braces and, 864-865, 866

instability, in vivo testing of braces in,

sprain of, mimicking torn meniscus, 668-

Medial malleolus, stress fractures of, 202-203

Median nerve, 314 anatomy of, 390

at elbow, compressive neuropathies of, 343-363

compression of, 347-355

Meniscal allograft, in posterior cruciate and posterolateral insufficiencies, 692-693 Meniscal injuries, 523-730

Meniscectomy, arthroscopic, failure of, ex-

tra-articular, 643-651 intra-articular, 651-656

nonmedical causes of, 656

in arthritis, 636 in discoid meniscus, 722

partial. See Meniscectomy, partial, arthroscopic.

results of, 633-639

complete, in discoid meniscus, 703

in children, 672-674 in malalignment of extremities, 645-648 in meniscal tears, 577 joint stability and, 530 open total, history of, 633-634 partial, 532-533, 585-586, 589 arthroscopic, 533, 610

goals of, 620 guidelines for, 620-621

lateral, 637

medial, 636

piecemeal excision in, 621 portals for, 621, 625 problems associated with, 630-631

results of, 637 arthroscopy and, 635-637

failed, 641-659 definition of 641

in children, 674-675

osteoarthritis following, 637-638 subtotal, in discoid meniscus, 703-704 total, 532, 585

degenerative changes following, 673-

674, 679 Meniscotibial sprains, treatment of, 677 Meniscus(i), anatomy and biomechanics of,

523-538 arthroscopic repair of, 589-607, See also Arthroscopy.

blood supply of, 590-591, 661 circulation of, 527-528 collagen bundles of, 661-662 collagen fiber orientation in, 527 common lesions of, 642 cysts of. See Cyst(s), meniscal.

development and substructure of, 578 discoid, 666, 667, 695-706

arthroscopic meniscectomy in, 722 classification of, 695, 696, 697, 698 clinical findings in, 701-702

etiology of, 696-697 history of, 695-696

pathology of, 697-701 treatment of, 702-704 discoid lateral, 655-656

discoid torn, treatment of, 677-678 functions of, 528-532, 533, 578, 641-642, 681

gross anatomy of, 524-528 injuries of, 523-725

classification of, 595-597 clinical presentation of, in children, 663-664

data for studies of, 539-540 differential diagnosis of, in children, 665-670

discussion of studies of, 547-549 epidemiology of, 662-663 evaluation of, in children, 670-672 findings in, in children, 664

Meniscus(i) (Continued) history in, in adolescents, 664 in children and adults, 661-680 in cruciate-deficient knee, 681-694 incidence of, with aging, 662-663 landscape of, 539-550 ligamentous injuries with, 665 near capsular margin, 676 pathology of, 552-554 patterns of, 549 rehabilitation following, in children and adolescents, 678 results of studies of, 540-547 symptoms of, 664 treatment of, 532-533 treatment options in, in children, 672vascular response to, 591-593, 594 joint congruity and, 530 joint lubrication and, 532 joint nutrition and, 532 joint stability and, 530-531 limitation of extremes in flexion and extension by, 531-532 load transmission by, 528-529 magnetic resonance imaging of, 551-559, 670-671 pitfalls of, 553-554 sensitivity and specificity of, 554-558 technical considerations in. 551-552 medial and lateral, attachments of, 525 differences between, 629-630 neuroanatomy of, 528 normal anatomy of, 552, 562 parameniscal synovial and tear surface abrasion and, 572 posterior, lesions of, arthroscopic techniques to improve access to, 619-632 red-red tears of, 595, 597 red-white tears of, 595, 596 repair of, 568-569 basic science of, 591-593 blood clot preparation for, 573-574 complications associated with, 575, 585 contraindications to, 576 fascia sheath technique of, 573 history of, 609 in children and adolescents, 675-677 in cruciate-deficient knee, 682 incision for, 582, 583 indications for, 579-580, 593-597 instrumentation for, 569 joint distractor for, 571 open, 577-587, 597, 609 portals for, 571 posterior incisions for, 569-571 postoperative care in, 574-575 recent increase in, 610

rehabilitation protocol in, 584

results of, 584-585

technique of, 580-583 resection of. See Meniscectomy salvage of, current status of, 567-576 shock absorption by, 529 stress reduction by, 529-530 structure of, 526-527 suturing of, 570, 572-573 tear(s) of, in anterior cruciate ligament tears, 567-568 incidence and morphology of, 642 meniscectomy in, 577 patterns of, in children, 665 prevention of, 567-568 repair of. See Meniscus(i), repair of. spontaneous healing of, 665 sports associated with, 663 types of, 578-579 techniques to visualize, for arthroscopy, 627-628 white-white tears of, 595-596 Metacarpal shaft fractures, 98-99 Metacarpal(s), fifth, base of, fracture of, 103-104, 105 Metatarsal(s), delayed union of, 207 neck and shaft of, fractures of, 178-179 nonunion of 207 proximal fifth, fractures of, 177-178 stress fractures of, 176-177, 205-208 acute, 206-207 Metatarsophalangeal joint complex, first, injuries of, 179 Monteggia fracture(s), 64-67 reverse, 229 Musculocutaneous nerve, anatomy of, 337injury of, clinical presentation of, 338 treatment and prognosis in, 339

Nailing, intramedullary, in open fractures, 3 Nails, flexible, in tibial fractures, 220-221 Neck, hyperextension injury of, 24-26 Needle electrode examination, in electromyelography examination, 233-234 Needle(s), spinal, to bring meniscus forward, 628, 630 Neoplasm(s), bone, knee pain in, 643-644, 646 Nerve conduction studies, in electromyelography examination, 230-233 Nerve entrapment syndromes, 389-390 Nerve(s). See specific sites and types of. Neurapraxia, 318, 344 cord, cervical spine stenosis with, 279-Neurologic examination, screening, 254 Neuroma, interdigital, 490-493 Neuropathy(ies), compressive. See Compressive neuropathies. of foot and ankle in athletes, 489-509

diagnosis of, 490 treatment of, 490 Neurotmesis, 318-319, 345 Neurovascular injuries, 229-522 in wrist and hands of athletes, 389-417 Neurovascular structures, knowledge of, for arthroscopic meniscal repair, 613 "Nightstick" fracture, 67, 68

Odontoid fractures, types of, 19-20 Olecranon, fractures of, 53-54, 79-81 stress fractures of, 194 Open management, in fractures, 4-5 Orthoses, in fractures of hand and wrist, 85, 86, 87, 88 Os calcis, stress fractures of, 203-204

Osgood Schlatter's disease, and tibial articular surface fractures, differential diagnosis of, 128 Osteoarthritis, traumatic, following partial

meniscectomy, 637-638 Osteochondral fractures, of knee, 122-125 clinical presentation of, 124

etiology of, 124 prognosis in, 125 treatment of, 125

talar dome, 165-168

Osteochondritis dissecans, 165-168 mimicking torn meniscus, 668 of capitellum, 51-52 Osteonecrosis, pain in minimal trauma in,

653 Osteotomy, fibular, in nonunion of tibia, 151-152

Outlet syndrome, adductor canal, 464-465

Pacinian corpuscle, 513 Passive motion, continuous, in orthopedic disorder, 800 Patella, anatomy of, 813-814

biomechanics of, 814 fractures of, 125-127 complications of, 127

etiology of, 126 treatment of, 126-127

instability of, anatomic factors predisposing to, 814 braces for, 816

bracing for, 813-821 treatment of, 814-815 stress fractures of, 197-198

813

subluxation of, medial joint line symptoms in, 653

Patellofemoral bracing, 809 Patellofemoral joint malalignment, pain in, Patellofemoral pathology, failed meniscectomy in, 653

Pelvis, stress fractures of, 208-209

Peripheral nerve injuries, of shoulder, 331-

Peripheral nervous system, lesions of, electromyelography examinations in, 229-

Peroneal nerve, and arthroscopic meniscal repair, 613-614

deep, entrapment of, 502-506 superficial, entrapment of, 500-503

Phalanges, fractures of, articular, 92-94 nonarticular, 90-92

Physical examination, in knee complaints, 643, 644

in meniscal cvst, 715-716

in tears of anterior cruciate ligament, 568 Piedmont fracture, 60-61

Pitching hand, in baseball, vascular problems in, 413-415

Plantar nerve, lateral, anatomy of, 493-494 entrapment of, 494-495 medial, 499-500

Plaster of Paris banding, for knee bracing,

Plate(s), removal of, in forearm fractures, 69 - 71

"Playing casts," 86

Plicae, thickened, mimicking torn meniscus, 666-667, 668, 669

Pole vaulting, lumbar spine injuries in, 439 Popliteal artery, adventitial cystic disease of, 461-464, 465

Popliteal artery entrapment syndrome, 459-461, 462, 463

Posterior cruciate ligament, injuries of, 691-692

Posterior interosseous nerve syndrome, 356-357, 358

Posterolateral instabilities, of knee, 691-692 Pronator syndrome, 347-351

Pseudogout, definition of, 652

postmeniscectomy, 652

Pulmonary embolism, as fracture complication, 7

Quadrilateral space syndrome, 381-382 Quadriplegia, transient, in cervical spine stenosis, 279-296

Radial head, fractures of, 52-53, 71-74 Radial nerve, 314

at elbow, compressive neuropathies of, 343-363

compression of, 355-361

Radial nerve (Continued) at wrist, 400-401 Radial tunnel syndrome, 357-361 Radiograph(s), following meniscectomy in children, 673 in brachial plexus injuries, 316-317 in cervical spine fractures, 14-16 in cervical spine injuries, 264-267, 268 in stress fracture, 188-189 of meniscal cyst, 716 Radius, distal, fractures of, 60-61 fractures of, displaced mid-diaphyseal, 9 stress fractures of. 194-195 Range of motion, control of, rehabilitative knee braces for, 803 early, in orthopedic disorder, 800, 801 Receptors, joints and, 513-514 Reflex sympathetic dystrophy, of knee, meniscectomy in, 648-651 Rehabilitation, following arthroscopic meniscal repair, 602-604 following fracture, 7-8 following repair of meniscal injuries, 574-575 knee braces during, 799-810 of upper-extremity injuries, 68-69 Resuscitation, on-field, in head injuries, 256 Rolando's fracture, 103

Rotator cuff tears, electromyelography examination in, 243-244 Ruffini's ending, 513 Runners, female, stress fractures in, 190 Running, lumbar spine injuries in, 440-441

Scaphoid fractures, 104-106

Rotational sports, lumbar spine injuries in,

Root avulsions, of shoulder, 326-327

441-444

766

Scapula, body of, fractures of, 36 Scar tissue, in response to meniscal injury, 591-592, 593, 594 Screw-home motion, meniscus and, 531 Sesamoids, great toe, stress fracture of, 208 stress fractures of, 179 Shoulder, fracture(s) of, difficult sports-related, 31-37 fracture-dislocation of, 36-37 peripheral nerve injuries of, 331-342 root avulsions of, 326-327 Shoulder girdle, electromyelography examination of, 240-241 Skiing, fractures in. 215-223 incidence of, 215-216, 217, 218 tibial articular surface, 132, 133, 134 treatment of, 216-223 Snapping knee syndrome, 666, 667, 704 Soft tissues, postoperative knee bracing and,

Spinal accessory nerve, anatomy of, 339 injury of, clinical presentation of, 339 treatment and prognosis in, 339-340 Spinal column, biomechanical functioning of. 424 Spinal cord, neurapraxia of, in stenosis of cervical spine, 279-296 Spine, cervical. See Cervical spine. lumbar. See Lumbar spine. Splint, knee, 731 Spondylolisthesis, 421-422 Spondylolysis, 421-422 Sprain(s), meniscotibial, treatment of, 677 Stabilization, of fractures, choices in, 2-3 Stingers, electromyelography examination in, 241-242 Stress fracture(s), 183-211 diagnosis of, 188-189 epidemiology of, 184 femoral, 195-197 femoral shaft, case histories of, 113-114 clinical data on, 112 distribution of, 113 in athletes, 111-119 historical perspective on, 183-184 in children, 190-192 in women athletes, 190 mechanisms of injury in, 184-188 of calcaneus, 173, 203-204 of coracoid process, 192 of fibula, 201-202 of forearm, 194-195 of great toe, 208 of humerus, 192-193 of medial malleolus, 202-203 of metatarsals, 176-177, 205-208 of olecranon, 194 of os calcis, 203-204 of patella, 197-198 of pelvis, 208-209 of sesamoids, 179 special considerations in. 190-192 specific fracture considerations in, 192tarsal navicular, 173-175, 204-205 tibial, 198-201 treatment of, 192

Styloid fractures, extra-articular, 178 Subclavian artery(ies), anatomy of, 378, 379, laceration of, 381 Supracondylar fractures, 43-44 Suprascapular nerve, anatomy of, 331-332 injury of, clinical presentation of, 332-333 treatment and prognosis in, 333-334 Sural nerve entrapment, 506-508 Suturing, of meniscus, 570, 572-573

Talar dome osteochondral fractures, 165-168

Talus, lateral process of, fractures of, 168-169

Tarsal navicular stress fractures, 173-175, 204-205

Tarsal tunnel, anatomy of, 495-496 Tarsal tunnel syndrome, 496-499

anterior, 504
Technetium bone scanning, in metatarsal

stress fractures, 176
Tennis, lumbar spine injuries in, 446
Tennis elbow, 357–361

Thoracic nerve, long, anatomy of, 336 injury of, clinical presentation of, 336– 337

treatment and prognosis in, 337 Thoracic outlet syndrome, 297-310, 383-385

definition of, 297–298 diagnosis of, 303–307 etiology of, 298–303 symptoms of, 297–298

treatment of, 307–309 Thromboembolic disease, in arthroscopic meniscal repair, 615

Thrombosis, venous, axillary subclavian vein, 382-386

deep, 466-467 Thumb, anatomy of, 401

Bowler's, 401-402 Tibia, diaphyseal fracture of, 219, 220 malunion of, and nonunion of, manage-

ment of, 141-161 definitions in, 141-142

treatment of, 146, 159-160 nonunion of, bone grafting in, 142-146 definitions in, 142

infected, 153-159 treatment of, 147-152, 159-160 plateau of, stress fractures of, 198

shaft of, stress fractures of, 198–201 stress fracture of, joint deformity following, 653

Tibial articular surface, fractures of, 129-131 classification of, 130 treatment of, 131

Tibial physis, proximal, fractures of, 133-134

Tibial stress syndrome, medial, 200 Tibial tuberosity, injuries of, 128–129 classification of, 128, 129

Toe(s), great, stress fractures of, 208 Torsional sports, lumbar spine injuries in, 441–444

Transchondral fractures, 165 Tumor(s), soft-tissue, benign, of knee, 720

symptoms in knee in, 677, 670 Two-fist sign, in diagnosis of anterior cruciate ligament deficiency, 687, 689 Ulna, fractures of, displaced mid-diaphyseal, 9

isolated, 67, 68 shaft of, stress fractures of, 194

Ulnar nerve, 314 anatomy of, 366–367, 396–397 compression neuropathy of, 396–39

compression neuropathy of, 396–399 clinical presentation of, 398–399 differential diagnosis of, 399 pathophysiology of, 397–398 return to sports following, 399 treatment of, 399

treatment of, 399
problems of, diagnosis of, 369–371
differential diagnosis of, 371
etiology and pathology of, 367–369
historical review of, 365–366
in athletic elbow, 365–377
operative procedure in, 372–373
postoperative rehabilitation protocol in,
374–376

surgical technique in, 373–374 treatment of, 372

Upper extremity, anatomy of, 378–379 arterial problems in, 379–382 injuries of, rehabilitation of, 68–69 proximal, vascular problems in, 378–387 venous problems in, 382–386

Vascular problems, in lower extremity, 449-469

in proximal upper extremity, 378-387 Vascular syndromes, of hand and wrist, 404-408

Vein(s), of lower extremity, 449, 451 of upper extremity, problems of, 382–386 Venous thrombosis, axillary subclavian, 382–

386 deep, 466-467 as fracture complication, 7

Wartenberg's syndrome, 400-401 Water sports, lumbar spine injuries in, 438-

Weightlifting, lumbar spine injuries in, 439–440

Women athletes, stress fractures in, 190 Wrist, arterial anatomy of, 404–406 compression of radial nerve at, 400–401 neurovascular injuries in, 389–417 sports-related fractures of, 85–109 vascular syndromes of, 404–408

Wrist extension attachment, in forearm fractures, 70